The Journal
OF THE
Michigan State Medical Society

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

VOLUME XX - No. 1
WHOLE NUMBER 221

GRAND RAPIDS, MICH., JANUARY, 1921

YEARLY SUBSCRIPTION, $5.00
SINGLE COPY, 50c

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Office of Publication,
Powers Theatre Building, Grand Rapids, Mich.

Entered as second-class matter March 12, 1913, at Grand Rapids, Mich., under the Act of March 3, 1879.

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Original Articles

CARCINOMA OF RECTUM AND SIGMOID.*

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What I have to say this afternoon on the subject of "Carcinoma of the Rectum and Sigmoid" will be addressed to the practitioner, rather than the surgeon or specialist in rectal diseases, who knows quite as much or more than I do about it. In spite of the fact that the surgical treatment of carcinoma of the lower bowel has been elaborated to a high degree of perfection and offers today excellent results when the disease is recognized early, surgeons are still receiving these patients but little earlier than ten years ago. The great majority of them when they finally do come are advanced and well beyond any hope of cure.

The promptness with which patients with malignant disease reach the surgeon depends first upon the patient himself, his general intelligence and knowledge of the early symptoms of the trouble; second—upon the practitioner to whom he usually goes. The education of the public on these matters is something which we may not individually be able to control, but certainly there is a serious responsibility placed upon us all when the patient sooner or later comes to us. In my experience the failure of the practitioner to act promptly has been due first to a lack of knowledge of the early symptoms of these diseases, and second, to a hesitancy to make rectal examinations. It seems to be commonly thought that such examinations are difficult, require expensive apparatus and are unpleasant. As a matter of fact they are not.

It is well to bear in mind that carcinoma of the *rectum* itself rarely produces obstruction, even in the latter stages, whereas it is usually an early symptom when higher up. I think bleeding is usually the first symptom of the disease, and since it is common with hemorrhoids, its significance is often overlooked. It is at this stage usually more or less constant and small in amount. A certain degree of discomfort is usually present in the rectum, but this may be so slight as not to excite attention. Bleeding from the rectum always demands an examination and I am sure if this were the general practice that the mortality from rectal carcinoma would at once be decidedly decreased.

In carcinoma of the sigmoid (or recto-sigmoid) the earliest symptom is usually obstruction. It is surprising how much the lumen of the gut is sometimes narrowed before the patient has pain or other disturbance of function. However, it of course occurs sooner or later. Slight cramplike pain in the abdomen occurring constantly or frequently should call for examination. An interesting symptom is diarrhoea, especially in the morning. It occurs often enough to be significant. Blood and discharge are usually fairly late symptoms in carcinoma of the sigmoid. I am not going into late symptoms of these diseases. They are only too familiar to us all and reflect a wide and hopeless extension of the disease.

Now in regard to examination—few things are necessary. The patient is placed first in the ordinary position on the back with the feet in stirrups, buttocks to the edge of the table, and thighs apart. After examination of the external parts the well oiled gloved finger is passed slowly into the rectum. Any growth or induration in the wall of the rectum can usually be detected without difficult. The finger then is passed upward toward the lower end of the sigmoid. If there is a growth in the sigmoid at or near its junction with the rectum, it can ordinarily be made out with ease. The feel like a cervix protruding into the rectum is familiar to us all, is almost pathognominic, and almost always present where the growth is present at this point. A bimanual examination especially in thin people often reveals the presence of a tumor. If not, when the examinaton up to this point has been unproductive, one places the patient in the knee chest position. The

*Read before the Surgical Section of the Michigan State Society, May 26, 1920.

knees should be placed wide apart for greater stability and about six inches from the end of the table. The thighs should be straight up and down, the chest, with the head turned to one side, should rest flat on the table or on a thin pillow. One requires only two tubal rectal speculums, one short, say 3 inches in length for better inspection of the parts just within the anus, and the other about 6 inches in length for inspection of the upper rectum and lower sigmoid. I do not think that longer speculums are of use—at least to the ordinary man. By careful manipulation one may pass this beyond several folds in the sigmoid and obtain a good view of the gut up to this point. Beyond this a longer speculum cannot be passed with safety by most of us. A good headlight and a pair of long, thin dressing forceps are the only other instruments required. If we have failed to reveal the trouble our next step is the use of the X-ray. This, of course, may only be properly done by an X-ray man well trained in fleuroscopic technic and with suitable apparatus, Every large city has one or more such men. We have found a mixture of barium injected into the rectum and followed with the eye on the screen a most satisfactory method of detecting stricture of the lower colon and even higher up. Distinct signs of stricture must be regarded with greatest suspicion.

The methods given above are simple. I think that any physician who will make one such ordinary examination a week, will in six months become expert enough to be able to detect or exclude with comparative certainty the diseases we are discussing.

Now as to indications for the several operations done. This should be left in a large degree to the judgment and experience of the surgeon himself. But certain general rules may be followed. If the growth is at the anal opening and lower than the internal sphincter—a condition which is comparatively rare—the removal of all the lower end of the rectum with the adjacent skin and the inguinal glands on both sides is the operation of choice. If the growth is well within the rectum, but still limited to the lower three inches, the removal of all the rectum is indicated, bringing the lower end of the sigmoid to the end of the sacrum which, of course, has been partially amputated in the performance of the operation. This makes a fairly satisfactory anus and is to be preferred to an abdominal one when the rectum alone is removed. When the growth is higher up in the rectum and well away from the anus, the question arises as to the preservation of the sphincter. There is danger in too much conservation at this point and still one is justified in preserving the lower end of the rectum with the nerve supply to the sphincter if the growth is small and the technical difficulties not too pronounced. If there is no recurrence the results are ideal.

When the growth is at the recto-sigmoidal juncture the preservation of the lower end of the rectum with the natural anus is allowable and the choice of a number of procedures is open to the surgeon. He may approach it from above, examining as soon as he opens the abdomen, the liver for possible metastases and finding all clear and the growth itself operable, may proceed to free the lower sigmoid with the growth, from its peritoneal attachments, remove it well below the growth and after inserting a large tube in the proximal end of the gut pass it out through the anus and do an anastomsis of the ends. If the difficulties in doing this seem to be too great the surgeon may divide the sigmoid well above the growth bringing the proximal end to the abdominal wall for an artificial anus at this point and afterwards remove the lower end of the bowel with the growth, from below.

When the growth is well up in the sigmoid and the same can be freed and brought through the incision, an ideal procedure as far as safety goes, is to unite the upper and lower limbs of the bowel by suture, close the abdomen leaving the growth protruding from it and remove it with the scissors in a week or ten days—a long forceps is then passed into the bowel, one blade in either limb and clamped—the forceps are later removed. The intervening portion between the two limbs sloughs giving free anastomsis and the abdominal opening closes spontaneously or may be closed by simple operation if needs be. When the growth cannot be brought through the wall an end to end anastomosis may commonly be done. I have attempted here merely to outline this work. The purpose of this paper is rather to interest the practitioner in this field, to point out the simplicity of making a proper and early diagnosis with the hopes that here in Michigan at least we may make some improvement in our results.

SURGICAL AND NONSURGICAL ASPECTS OF CHRONIC GASTRIC AND DUODENAL ULCERS.*

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With the gradual growth and the natural extension of the Clinic's activities into the fields of graduate teaching, research, and medicine, in recent years the purely medical aspects of gastric diseases have received greater attention. Medicine in its broad aspect includes surgical and nonsurgical therapy, and the surgeon after all is only a physician who operates. Under certain circumstances surgical therapy is uniformly indicated and under other circumstances only so-called medical measures, such as rest, drugs, and dietotherapy, should be instituted. An internist by choice and natural inclination yet intimately acquainted with surgical procedures and end results I may be in the unique position of evaluating both methods of treatment without professional bias or personal animus.

SURGICAL TREATMENT: INDICATIONS, ADVANTAGES AND RESULTS.

Surgical interference is urgently indicated in acute perforations as soon as diagnosed; and in sequelae or complications of ulcer such as pyloric stenosis, hourglass deformity, malignant degeneration, recurring severe hemorrhage, subacute or chronic perforation with involvement of neighboring viscera, crippling gastric functions, and in all cases not responding satisfactorily to medical treatment. Frequently in uncomplicated cases, especially those of long standing, by virtue of personal choice for economic reasons or inability to obtain expert medical skill an operation is justifiable. The inherent advantages of good surgery I believe are due to the rapidity with which permanent cure may be achieved, the removal of associated intra-abdominal disease, and the recognition and radical extirpation of malignancy in its incipient and curable stages. Failure to achieve the desired operative end result in the past was largely due to two reasons; (1) technical error the result of an incompletely developed technic, and (2) performing gastrojejunostomy in the absence of a lesion. Present-day causes of failure in the hands of the conscientious and skilled surgeon constitute a small and almost unavoidable number, chief among which are gastrojejunal ulcers and rarely, recurring ulcers. The increasing tendency to diagnose first and to operate afterward, the avoidance of any surgical procedure in the absence of a demonstrable lesion, the routine resection or excision by knife or Balfour cautery of a gastric lesion or a bleeding duodenal ulcer have greatly improved surgical end-results. Not infrequently the recurrence of symptoms in the neurotic or asthenic ulcer-bearing person is classified as a surgical failure when the trouble is invariably of functional origin; the ante-operative prognostic conservatism and the postoperative therapeutic indications in such persons are obvious. Satisfactory surgical end results (complete cure or marked improvement) range from 75 per cent. in certain types of gastric ulcer cases to 95 per cent. in the advanced pyloric obstruction cases. The immediate surgical mortality in all cases of peptic ulcer is about 1.5 per cent.

*Presented before the Michigan State Medical Society, Kalamazoo, May, 1920.

MEDICAL TREATMENT: ADVANTAGES AND INDICATIONS.

Among the rank and file of the profession there is a general feeling that all uncomplicated ulcers should have the advantage of consistent medical treatment before surgery is advised. This is a sane and commendable viewpoint, and while treatment is frequently instituted it invariably fails because it has not been sufficiently intensive, and on that account medical methods for curing ulcers have been condemned both in principle and practice, especially by the surgeon. Furthermore there is considerable scepticism relative to the permanency of cure even by adequate medical management in the hands of those most skilled and thorough, beside the conviction that ulcers are not always present in the treated cases. The disclosures on the operating table in cases in which medical treatment has been given warrant such an impression. Frank and straightforward statistics of ultimate end results by leading exponents of medical therapy would disarm criticism and place a proper evaluation upon a commendable procedure. Perhaps the best justification for at least making a conscientious attempt nonsurgically to cure an ulcer-bearing patient is by virtue of the fact that a chronic ulcer may heal spontaneously or with little treatment. The majority are resistant to ordinary treatment and some may go on to a complicated stage in spite of all efforts. I have seen striking instances of five and six-year cures following ambulatory treatment even under unfavorable circumstances, and while this is the exception rather than the rule, no one can prognosticate what may occur in an individual case until a serious therapeutic attempt has been made. Medical treatment is especially indicated in the young patient with a brief period of trouble, in those suf-

fering from associated advanced disease of the kidneys, respiratory, or cardiovascular system, in severe diabetes, in the obese, the aged, or in patients with any other condition which would make surgical interference hazardous, and of course in those who refuse operation. My personal experience in the treatment of gastric and duodenal ulcers in a considerable number of primary as well as postoperative cases extends over a period of three years and is therefore too short to be of statistical value at this time. With few exceptions only patients with a consistent syndrome verified by the roentgenologic examination were admitted to the medical wards.

The outstanding advantage of medical management to the patient is that proper instruction in personal hygiene and the suitable selection and preparation of his food go hand in hand with his active treatment. The importance of thorough mastication is emphasized. Foci of infection, especially in the throat, teeth, and sinuses, are routinely removed. Co-operation of the patient is readily secured if he is informed in simple detail of the steps necessary to accomplish the desired result. Ulcer like diabetes or tuberculosis is a chronic disease, really in many respects a diathesis, in the cure or satisfactory alleviation of which the co-operation and intelligent training of the patient is often vital. I believe that the surgeon has been signally negligent in these details. As Gerster says, too much reliance is placed on the mechanical side of treatment to the neglect of the dietetic and psychic factors. It is strange that the results have been so good.

Successful treatment presupposes an exact knowledge of the etiology, pathology, and morbid physiology of a disease process, and in the absence of such knowledge treatment is of necessity empirical. In many respects our knowledge is still incomplete because fundamental problems are involved. The infectious origin of ulcers, that is regarding ulcers of the stomach and duodenum as largely embolic infections from some distant focus (Rosenow), is an entirely acceptable theory to the clinician. More recent research on the physiology of the stomach by Cannon, Carlson, and others has thrown much valuable light on the motor activity of the stomach in the normal and pathologic states and on the mechanical factors of digestion. It is questionable, however, how much the extension of our knowledge in this field has been of practical help in the daily diagnostic and therapeutic problems of the internist. The corrosion theory and the mechanism of pain in ulcer are still matters of ardent controversy and the results of competent observers based on physiologic studies of pathologic human stomachs are conflicting. The difficulties that confront the scientific investigator in this field can be appreciated when so acute an observer as MacKenzie is moved to say that "to understand the full significance of pain in any case, we have to know a great many matters which are still hidden from us. The tissues capable of producing pain, the nerves in whose distribution the pain is felt, the manner in which the pain spreads, and the laws governing the spread of pain; the character of the pain itself; the manner of its onset and its variations, and the phenomena with which it is associated, are all matters which it is necessary to understand before we are qualified to undertake an investigation into the disease."

To the practical physician peptic ulcer connotates infection, pain, acidity, and spasm. Any break in the vicious circle should have a salutary effect; and any method or system of treatment which accomplishes this purpose in an effective manner, and with which the physician is entirely familiar, should be employed.

METHOD OF TREATMENT.

I employ the milk and cream and alkali methods, as advocated by Sippy, with slight modifications. The opponents of the corrosion theory find much to criticize in this method. However, in my experience the method is simple and effective, and I have chosen it largely because of these virtues rather than because I am a champion of any particular theory or hypothesis. Rest in bed for three weeks is routinely ordered, and in most instances work may be gradually resumed within five weeks after beginning treatment. During the first week from 7 a. m until 9 p. m., 2 ounces each of milk and cream are taken hourly by the patient and midway between feedings powders are given, No. 1 consisting of 15 gr. each of sodium bicarbonate and calcium carbonate, alternating with No. 2 consisting of 15 gr. of sodium bicarbonate with 10 to 15 gr. of heavy magnesia. The gastric contents of all juxtapyloric ulcers during the first week or ten days are gently withdrawn by a Rehfuss tube at 10 p. m., or by an ordinary stomach tube if pyloric stenosis is present, in order to control night secretion and for titration estimations. Every second afternoon the contents are aspirated during the digesting period to determine if an accurate neutralization of the free hydrochloric acid is maintained as this is the object of our efforts. If the acidity is not controlled 10 gr. of soda may be added from time to time to each powder which may be taken with from 2 to 3 ounces

of water. The milk and cream mixture is poured into an empty effervescing citrate of magnesia bottle, which is placed in a porcelain pitcher of ice water. The powders in a properly labelled paper carton, drinking water, and a measuring glass are provided. By the end of the fourth day and not later than the seventh day the following addition to the diet may be made: Three or four fresh soft-boiled eggs, one at a time, and 9 to 12 ounces of a well-cooked cereal, 3 ounces at one feeding to be given each day. The cereal is measured after preparation. The egg and cereal are to be alternated and given as a substitute for one of the milk and cream feedings. If the acidity is readily controlled and the weight maintained feedings may be taken every two or three hours, increasing each milk and cream feeding to 3 ounces respectively. During the second and third weeks the evening aspirations are discontinued unless indications for their use persist, and food such as the following articles may be substituted or added gradually: Vegetable purées, bread and butter, custard, junket, thin cereal, gruels, cream soups, jellies, marmalade, fresh creamed cottage cheese, and corn-starch pudding. The basis is milk, cream, eggs, cereals, and vegetable purées.

"If desired, at the end of ten or twelve weeks the length of time between feedings may be regularly increased to two hours, and the powders continued midway between feedings, as before. Approximately twice the quantity of food should be taken at each feeding, and two powders midway between feedings. The free acidity is not as accurately controlled under such management as when the food and powders are taken hourly."

"At the end of twenty or more weeks the patient may eat three small meals daily and take a glass of equal parts milk and cream about midway between breakfast and the noon meal, and between the noon and evening meals. Two powders should be taken midway between the breakfast and the glass of milk and cream mixture. Two powders should be taken midway between the milk and cream mixture and the noon meal. In like manner, two powders should be taken midway between the afternoon feedings and two powders approximately one and two hours after the evening meal, and again two powders at the end of three hours after the evening meal."

Successful medical management of a considerable number of patients at all times presupposes a trained personnel, prompt in attendance on the particular needs of the patient and in carrying out orders. Worry or anxiety and mental or emotional strain for any reason greatly retard favorable response to treatment. Whenever necessary the reeducation of the patient, so that his occupation may be carried on with a minimum expenditure of nervous and physical energy, should be carried out. The immediate beneficial response to treatment is the rule. The pain and acidity of nonobstructing gastric ulcers are quickly dispelled, and roentgenologic examination at the end of the third week invariably shows a disappearance of the niche. However, this is not a criterion of permanent healing. Duodenal ulcers, especially the long standing calloused ulcers, are more slowly responsible. Stenosing ulcers naturally require longer periods of treatment and more frequent prolonged aspiration. In obstructed cases due to organized cicatrix the interests of the patient are best conserved by a posterior gastrojejunostomy. Every gastric ulcer in which the initial symptoms appear during or after the fourth decade of life must be looked on as potentially malignant and medical treatment should be supplemented by constant clinical supervision. In a few of our cases of early obstructing duodenal ulcer due to inflammation and edema medical management caused subsidence of pain and hyper-secretion within a week, and the normal emptying capacity of the stomach was established within three weeks.

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PATHOLOGY OF PEPTIC ULCER.

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I think I can show you the relation between ulcer and carcinoma of the stomach best by showing you lantern slides. There should be no difficulty in understanding, I think, the relationship between ulcer and carcinoma. I shall say nothing whatsoever about acute ulcer and confine my attention to chronic ulcer.

There has been much discussion in the literature about what percentage of gastric ulcers become malignant. I might say something about that in this manner. No one knows what percentage of gastric ulcers become malignant and probably no one will ever know what percentage of gastric ulcers become malignant. Certainly not until we can experimentally produce chronic gastric ulcers and then experimentally produce gastric carcinoma on those ulcers. Of course, no one has been successful in doing either.

Before we get through, I hope to show you that it does not make much difference whether you think the carcinoma starts on the ulcer or not. The main point is simply this: that the chronic gastric ulcers are sufficiently frequently associated with carcinoma to make every ulcer suspicious of carcinoma from a clinical standpoint, but remember that I mean only chronic gastric ulcers, not acute gastric ulcers.

Now, there are a few simple facts. Chronic gastric ulcers occur in the stomach as single lesions and as multiple lesions. In certain gastric ulcers we find the epithelium, which is the natural place for carcinoma to arise, practically normal. In some gastric ulcers, in the same location, we find this normal epithelium replaced by cells which are undifferentiated, cells either ovoidal or spheroidal, sometimes irregular in size. These cells are intra-tubular cells. Of course we have no right from such a picture to make a diagnosis of carcinoma, in spite of the fact that the cells are morphologically identical with cells we definitely know are carcinoma.

In some other chronic gastric ulcers in the same region on the border of the ulcer, we find not only these ovodial intra-tubular cells resembling carcinoma cells, but we find these cells have migrated into the surrounding tissues and give you a picture which is carcinoma.

Now, there is one picture which I shall show you. There are so few cells outside of the tubule that even some pathologists might tell you that the picture is not carcinoma. But in the case which I shall show you, the patient died of carcinoma, secondary to an excision of this ulcer in which no more was found than I shall show you in a certain slide. The patient came back a year and a half later with an inoperable carcinoma, and subsequently died.

The first slide clearly proves that chronic gastric ulcers occur as multiple lesions varying in diameter and varying in depth.

Here are five gastric ulcers. There were six ulcers on this specimen, the sixth one having been cut out. That was the only carcinomatous ulcer in this case.

The next slide will be a cross section through this specimen. If you could see this picture distinctly, you would see all the graduations of destruction of the wall of the stomach. You can see the scar tissue.

The next slide is a section of the smallest ulcer showing destruction of the mucosa and muscularis mucosa. The outlines of the ulcer are characteristic; and the crater which you see does not extend into the sub-mucosa.

This is a section through the wall of the second ulcer in size; the crater extends into the submucosa, the muscularis mucosa, being the line of demarcation. Here we have a certain amount of distortion of the glands in the mucosa.

The next slide is a photograph of a gross specimen containing a single gastric ulcer. The ulcer was about one centimeter in diameter; with a specimen in your hand it is impossible accurately to say whether or not this ulcer is carcinomatous; and of course we cannot expect the clinician and the x-ray man to make that differentiation.

The next slide is a gross specimen showing the base of the ulcer adherent to the pancreas. A section through this ulcer shows necrosis in the base and a very characteristic arrangement of the scar tissue. The lines of the scar tissue are usually perpendicular to the surface of the crater. This is the only V-shaped chronic ulcer I have ever seen. You remember that Virchow talked about V-shaped ulcers, but I am sure he had in mind the acute ulcer. The chronic ulcers are somewhat U-shaped.

Of all the ulcers which I have seen, this slide represents best the typical histological picture of chronic gastric ulcer. We have usually distortion of the glands in the border, lymphatic infiltration and the characteristis arrangement of the scar tissue in the base plus necrosis. Now, it doesn't make much difference what layer of the stomach is involved in the base, whether it be the tissues of the sub-mucosa muscularis, or of some adjacent organ, the bottom of the crater is always necrotic.

The next slide is also from another simple ulcer, a small ulcer of a half a centimeter in diameter. If you want to guess as to the probability of that being malignant, you will have a pretty hard time. As it happens this is a simple gastric ulcer.

I will give you one general practical rule which might be of value to you, especially to surgeons and x-ray men. An ulcer larger than a quarter is usually, in my experience, carcinoma. I mean chronic gastric ulcer. There are some exceptions to this rule. As a good work-

ing surgical rule, it works very well in our experience. I so often say to the students, "If you hand me an ulcer, I can guess it is a carcinoma by the size and be right most of the time."

The next slide is a section through that simple ulcer. This is an extraordinarily deep ulcer, as you will see.

Here we have a gross specimen of a small ulcer and a larger ulcer one in the same specimen. I want to emphasize that it is impossible with a specimen in your hands—perfectly fresh or not—to say whether or not that is carcinoma. You can say nothing positive until you have examined it under the microscope.

We have in the next slide another specimen of a typical chronic gastric ulcer. Again it is impossible to tell whether or not it is carcinoma. A gross section through the same specimen, showing the overhanging border and the characteristic crater. Now, what portion of this ulcer must we examine in order to find early carcinoma? I emphasize "early carcinoma." If it is late, you can find it any place in the specimen. We are not especially interested in late carcinoma because we can't cure it by any known methods or means. We can cure possibly the earlier cases.

If you read text books and some articles you will find they say that carcinoma starts in the base of an ulcer. From my own experience I wish to say that whenever you find carcinoma in the base of an ulcer you can also find it in other portions of the ulcer. I wish also to say the earliest carcinomatous changes I have seen have been in the border of the ulcer where you naturally expect it to be. This is a low power photograph of an ulcer. Frequently surgeons cut specimens from ulcers and send them in to the laboratory and expect the pathologist to tell them whether or not they are carcinoma; and many of the surgeons cut the sections out of the base of the ulcer; such specimens do not tell anything about the carcinoma unless it is an advanced carcinoma. What we want is a portion, the border, in order to see certain definite changes. What are the changes? In some chronic ulcers, we find practically normal epithelium in the tubules such as we have in this section. There may be a little distortion of the tubules. When you study the cells themselves with the high power, you find that they are differentiated, high columnar cells having the morphology of normal cells, such as we have in this picture.

Now, the borders of some gastric ulcers—you not only find distortion but you find these normal cells have been replaced by cells which are ovodial or spheroidal; they have less cytoplasm and larger nuclei. We have cells, the nuclei of which are larger in proportion to the amount of cytoplasm than the other section. A large nucleolus is present and at the same time all of these cells are inside of the tubule.

The next slide is a little higher power. The polarity of these cells is not regular as in the normal tubule. The long axes of the cell run in different directions. The nuclei vary in size and shape and do not resemble normal cells. This is not cancer, but the cells are morphologically identical with cancer.

The next slide is from a section through another gastric ulcer, showing you still further changes in the cells and their location. I will show you this under high power in a minute. We find not only changes that occurred in the last slide but we find the cells are intra-tubular. There is still greater variation in size. The cytoplasm is less in proportion to the amount of nucleus.

The next slide is a higher power section. We can see these cells very well with this light. Here is a large cell with the large nucleolus at this point. Morphologically, these cells and these tubules are identical with cells of carcinoma.

Now, in some gastric ulcers in the borders we have the changes which I have just mentioned plus the presence of the cells in the surrounding stroma, which I think the pathologist will say is the criterion for carcinoma.

Now, in the next slide we see cells which are distinctly carcinomatous cells. They have been taken from a small nodule in a lymph gland. No one would question their being carcinoma. If you compare these cells side by side, with the cells described in some of the other slides, you can see they are morphologically identical.

I now show you normal tubule similar to the one which we saw at the beginning to recall to you what normal gastric efistitial cells look like in normal tubules. The process of migrating hyperflosia keeps on until we get an enormous carcinoma. It is only large carcinomata which the clinician and the x-ray man can diagnose before operation. These are the specimens which we can diagnose grossly in the laboratory. But such specimens are becoming less frequent in our practice just like large ovarian cysts and large fibroids have become less frequent. Ten years from now such a specimen will be extremely rare because most of the cases that come to us will have small ulcers; the layman is becoming educated up to facts relative to ulcers and carcinoma and so is the physician.

In review I might say that if you will study

the borders of some chronic gastric ulcers you will find the tubules lined by normal columnar epithelium. If you study some specimens, grossly identical as far as you can tell, you will find the columnar cells are replaced by cells morphologically identical with carcinoma cells, and of course we have no right to call it carcinoma. In some tubules, we find these same cells present plus the invasion of the surrounding tissue and we have a right to call the condition carcinoma.

There should be no very lengthy discussion about the relation of ulcer and carcinoma. All we have to do is to study a large series of specimens, especially ulcer and early carcinoma and we can see the graduations from simple ulcers to the advanced carcinomatous ulcers.

The most important known clinical fact is based upon our knowledge of pathology. If I have a chronic gastric ulcer I have no method of proving that I have not also a carcinoma of the stomach. Whenever I get in this condition I am going to have the ulcer not excised but resected if posible. This is the practical conclusion to be made from the slides which I have shown you. Now that does not mean, if I, today, have my first signs of chronic gastric ulcer that I would immediately run to the surgeon and ask him to cut out my stomach. It does not mean that at all; I would hunt up a good physician. He would teach me how to live. I would not continue treatment with that medical man for a year or two if my symptoms continued. I would have a surgeon. I would not wait indefinitely, with my present knowledge of the relationship of chronic gastric ulcer and carcinoma. As far as the clinical diagnosis is concerned, the clinical diagnostician will be able to make a diagnosis in some cases. I do not dare to give the figure. They vary with the efficiency of the clinician and the condition of the stomach. He can diagnose a few. In many, however, he cannot make a differential diagnosis.

In our own experience in the laboratory, twenty-three per cent. of carcinoma of the stomach are diagnosed in the laboratory. They may have been inspected by the x-ray man and clinician. They are actually diagnosed in the laboratory and not by the clinician, the surgeon or the x-ray man.

X RAY EVIDENCE OF ULCER.

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In considering the roentgen diagnosis of peptic ulcers, we may first of all divide them into those which are prepyloric, and, second, those which are post-pyloric. The prepyloric ulcers should be subdivided into simple erosions which may later show fibrous thickening; second, penetrating ulcers, with destruction of the mucosa and muscular coats; third, perforating ulcers which destroy all the coats of the stomach and where the escape of the gastric contents is limited by the resulting productive inflammation; and fourth, the ulcer which causes a great deformity of a special type known as the hourglass deformity.

It is pleasant, in approaching this subject to remember that medical science is not indebted to the X-ray workers of the continent for the modern roentgen diagnosis of ulcer. The introduction of the opaque meal by Cannon and Williams, and the painstaking work of Cole, Carmen, George, Pfahler, Case, Crane and many others has elaborated this difficult means of diagnosis. American workers in X-ray diagnosis have every reason to be proud of their accomplishment and of the superiority of their work as compared with other nationalities.

An examination for peptic ulcer should be simply part of a general examination of the gastrointestinal tract; that is, if a patient is suspected to have either a prepyloric or a post-pyloric ulcer, the entire gastrointestinal tract should be carefully examined, inasmuch as nothing but dissatisfaction will be obtained from an examination limited to the suspected ulcer area. Painstaking and *not* perfunctory examination of the gall bladder area should precede the ingestion of the opaque meal in order to detect, if posible, plate evidence of gallstones or an enlarged gall bladder. The information is usually directly proportionate to the pains taken with the examination.

In considering the value of any method, it is best to realize its possibilities and also its shortcomings. The opaque meal enables us to visualize the stomach with the X-ray, giving us definite information as to the size, shape and position, while the study of the successive changes in outline enables us to judge of the activity of the gastric muscle. On the other hand, we must bear in mind that we are simply obtaining a silhouette outline, as it were, of the stomach, and the condition of the mucosa, except as it shows fairly definite pathology, cannot be comprehensively depicted by the X-ray.

The time-honored question as to the superiority of the fluoroscopic method over the plate method, and vice versa, is always brought up in discussing the question of gastric pathology. The concensus of opinion at the present time is that a sane combination of the two methods is far preferable to the fanatical adherence to one line of procedure.

In gross lesions, such as perforating ulcer, either method is all-sufficient. In small penetrating ulcers, the plate method will often show detail which is wanting on the screen. In the study of gastric peristalsis the fluoroscopic method is pre-eminently valuable.

It is, perhaps, advisable to preface any particular remarks with a few general statements. First, the more pronounced the gross pathology, the more easily will it be detected by the X-ray; second, the nearer the lesion is to the pylorus, the more quickly will it be recognized. In short, ulcers involving the lower pole of the stomach will be found more readily than ulcers which have their site above the mid portion of the stomach. This is explained by the fact that in watching the peristalsis of the stomach, if the ulcer is above the place where the peristalsis waves start, it naturally follows that study of the peristalsis will not be of value in the diagnosis.

It is necessary to remember, also, that in cases of even comparatively gross pathology nless the rays pass through the ulcer area parallel to the plane of the pathology, it will not be shown on the outline of the stomach, that is if the rays fall perpendicular to the plane of the ulcer area, it will not be shown. On this account, it behooves the examiner to study the patient from as many angles as possible, so that the ulcer area will coincide with the silhouetted outline of the stomach.

It is perhaps superfluous to insist that in the fluoroscopic examination of the gastrointestinal tract, the observer work under conditions as favorable as possible. The fluoroscopic room should be absolutely dark; at least fifteen minutes should be allowed for the proper accomodation of the eyes of the observer and the X-ray light should be of proper voltage and under suitable control. The examination should be conducted with the patient both in the erect and horizontal positions. We feel it is necessary to speak about some of these points inasmuch as many physicians who are now installing fluoroscopic outfits in their offices, will be dissatisfied with their results unless all of these precautions are observed.

Inasmuch as the short time allowed to us in this symposium does not permit us to enter at length into all the points of diagnosis in the recognition of ulcer, such a complete resume being naturally more appropriate to an audience composed of those especially interested in X-ray work, we will very briefly pass over the usual roentgen signs.

In hourglass contractures of the middle pole of the stomach, the deformity is so great that it is usually easily recognized. Persistent spastic incisures cause some slight difficulty, but the use of atropin pushed to the physiologic limit will usually determine the differential diagnosis. In all these cases, the Wassermann test should be made to determine whether the ulcer is specific or not. Luetic ulcerations of the stomach are particularly prone to appear on the greater curvature near the middle pole.

Perforating ulcers are usually recognizable during a careful fluoroscopic examination of the stomach, on account of the actual production of a shadow beyond the outline of the stomach. They are usually found on the lesser curvature and also on the posterior wall. The size of the protruding shadow varies considerably. In the larger ulcers, the outline may not be entirely caused by the opaque meal, there being introduced a bubble of gas, the so-called niche of Haudek. In these ulcers, an incisure may or may not be preset.

Penetrating ulcers of the stomach require more care for their detection, inasmuch as the deviation from the normal outline is less apparent. Usually an incisure is present which may or may not be persistent. The peristalsis should be accurately studied, and any lack of symmetry between the peristalsis waves seen on the greater curvature as compared with those seen on the lesser curvature will induce the observer to closer study of the suspected area. In these cases, the plate method is particularly useful, supplementing by its graphic outlines the fluoroscopic study of peristalsis.

The recognition of simple erosive ulcers of the stomach forms one of the most difficult problems for the roentgenologist. Frequently the only sign which manifests itself is the presence of striking peristalsis on the greater curvature and the absence of peristalsis over a limited area on the lesser curvature. Such an appearance, if persistent over a somewhat extended period of examination, is presumptive, although not conclusive, evidence of a superficial ulcer. If the ulcer is situated fairly near the pylorus, there will usually be present a marked residue. If further examination of the gastrointestinal tract fails to reveal probable evidence of gall bladder disease and shows that the appendiceal region presents no abnormal-

ities, it is further presumptive evidence of a gastric lesion.

Six hour gastric retention should always be confirmed by a second examination. The writer has seen cases of retention of psyolic origin and has considered the problem of the recognition of superficial ulcers of the lower pole of the stomach as one of the most difficult problems presented in radiographic diagnoses. In order to cover the ground as fully as possible, a number of letters were addressed to twenty roentgenologists in different sections of the country asking what percentage of these ulcers were thought to be recognizable by the ray, and also what were the cardinal points of diagnosis. Quite a variety of answers were received, but the concensus of opinion seemed to be that with with experienced observers, fully seventy-five per cent. of simple ulcers should be recognized. However, some of our co-workers with a large experience seem to feel that it was somewhat imposible to quote statistics accurately on this subject, for the reason that many of these cases, when so diagnosed by the ray, and in which the diagnosis was corroborated by the clinical findings, improved rapidly under treatment so that the internist in charge of the case was never quite positive as to what the actual lesion had been. Many suspected cases of ulcer, which give a stain with the string test, fail to show radiographic evidence. If these cases improve under treatment, it still remains a somewhat debatable question as to just what the exact pathology was. It is perhaps gratifying to remember that cases which possess pathology important enough to demand surgical intervention are usually easily recognizable by the ray.

In approaching the diagnosis of post-pyloric ulcers, the roentgenoligist takes fresh heart and applies himself to the task with much more confidence. The reason for this is that the area involved is small and intensive study confined to such a limited area yields more conclusive results. With ulcers of the duodenum, we find usually a marked hyperperistalsis, sometimes of the gigantic type, almost always bisecting, and one which at once leads to strong suspicion of duodenal ulcer. With the demonstration of an imperfectly filled bulb, even under manipulative procedure, the diagnosis becomes more certain. If to this then is added a serial plate demonstration, in which is found a constant deformity of the bulb the diagnosis becomes quite certain. Possibly one reason that the roentgenologists are more proficient in the detection of duodenal ulcer is on account of its greater frequency. Retention may or may not be present, depending whether the cicatrix has assumed obstructive importance. With an ulcer which produces a large retention at six hours, the lower pole of the stomach usually assumes a characteristic appearance, termed the prognathian type of pylorus. In operating on many of these cases, the surgeon will find that the ulcer will appear somewhat smaller than might be suspected from the type of deformity shown on the serial plates. This is due to the fact that the deformity of the pylorus is due, first of all, to the organic lesion, and second to the spasm which this lesion produces.

In the differential diagnosis of ulcer from other conditions of the gastrointestinal tract, a careful survey of results of the complete examination will be of assistance. For example, in hyperacidity caused by reflex irritation from the appendix, there will usually be demonstrable at the twenty-four and forty-eight hour examination, cecal retention which may or may not be accompanied by visualization of the appendix, but which will usually show marked tenderness on deep manipulation, and also fixation of the cecum on attempts at forcible displacement.

The differential diagnosis from gall bladder disease may be aided by the plate demonstration of an enlarged gall bladder, accompanied or not by the shadows of gallstones; also the rigidity of the pylorus and duodenum to manipulations. It is, however, essential to remember that the distinction between the fixation of the pylorus by adhesive bands, ulcer and gall bladder may not always be a simple matter, and we recall that in interrogating some of our surgical friends as to what they thought was the cause of bands of fibrous tissue found on abdominal section, learned that it was impossible to determine this from simple inspection. If the surgeon is unable to always determine the exact pathology when he has the specimen open for examination by ocular test and by the sense of touch, it is perhaps too much to ask the roentgenologist to furnish decisive information on simple silhouette shadows.

We feel, however, that a careful and complete X-ray examination in cases of suspected ulcer is the most decisive method of diagnosis at our disposal.

32 Adams Ave., West.
Detroit, Michigan.

ETIOLOGY AND DIAGNOSIS OF PEPTIC ULCER.*

MILTON M. PORTIS, M.D.
CHICAGO, ILL.

Probably nothing in the diseases of the gastro-intestinal tract has been the subject of so much theory, experimentation and discussion as the etiology of peptic ulcer.

There are some facts which stand out prominently and should always be kept in mind in this consideration. First: ulcers are almost exclusively found in the acid portion of the gastro-intestinal tract, viz: the stomach and first portion of the duodenum. Secondly: the majority of ulcers are associated with hyperchlorhydria and anemia. The old question of why does the stomach not digest itself is also involved in the ulcer question. Finally, what prevents the healing of an acute ulcer so that chronic ulceration results?

Trauma is undoubtedly a factor in causing some ulcers to form, but it is not common. Accidental and experimental wounds in the normal mucosa heal rapidly. Likewise the tearing away of pieces of mucous membrane by the stomach tube is rarely followed by ulcer. On the other hand, when there is interference with the nutrition of the part of the mucous membrane injured, then healing is interfered with and an ulcer results. Just what can produce the necessary associated conditions under which injuries to the mucosa do not heal has given rise to many theories. When hyperchlorhydria is present, injuries of the mucosa do not heal as rapidly as when the acid is reduced in amount. It has been clinically observed for a long time that alkalies favor the healing of ulcers.

It is generally agreed that a severe anemia, especially chlorosis, predisposes to peptic ulcer. Experimental anemia, induced by bleeding, has been associated with ulcer formation. Severe anemia and cachexia not only favor the production of an ulcer, but also retard its healing. Ulcers have been induced in animals in which lesions of the central nervous system have been produced. Thus, in section of the spinal cord and section of the vagi ulcers have been experimentally produced.

The interruption of the circulation to any part of the stomach by any cause whatsoever, will favor ulcer formation. Virchow, many years ago, suggested that the plugging of a nutrient artery by an embolus or by a thrombus would cause an infarct in the area deprived of circulation. The digestion of this area would result in a round ulcer.

Cohnheim injected lead chromate into the gastric artery and produced ulcers in the stomach. Vanum injected an emulsion of wax into the gastric artery and ulcers formed in the stomach.

Talma denuded areas in the mucosa and then ligated both orifices of the stomach. Because of increased tension of the gastric wall, these denuded areas did not heal and formed ulcers. More recently, Friedman observed by producing partial stenosis of the pylorus experimental acute ulcers did not heal and chronic peptic ulcers formed.

Turck, by feeding pure cultures of colon bacilli to dogs, produced acute ulcers in the stomach of animals and no healing occurred as long as the bacteria were fed. However, as soon as the animal was not fed with colon bacilli, cicatrization took place.

Letulle, twenty years ago, called attention to the possibility of infection causing peptic ulcers to form. He injected streptococci from a case of puerperal sepsis into guinea pigs and produced gastric ulcers. More recently, Rosenow has shown that streptococci may have a selective affinity for the mucosa of the stomach and duodenum. The ulcers he has produced in animals by injections of streptococci bear a close resemblance to the ulcers seen in man. They tend to become chronic, to perforate and to cause severe or fatal hemorrhage.

These streptococci he has isolated from various areas of focal infection, especially the tonsils and teeth. He concludes that peptic ulcer in man is primarily due to a localized hematogenous infection of the mucous membrane by streptococci.

The occurrence of duodenal ulcer in burns has given rise to much speculation. It is found in the deep infected burns and may be due to infected emboli which arise from such areas. Undoubtedly the toxaemia and anemia which rapidly take place in extensive burns also play a role.

Hamburger, Friedman, Ives and others have all submitted splendid experimental researches on the etiology of acute and chronic ulcers, but no one as yet has presented any final or conclusive evidence. From our knowledge to-day, we can only conclude that peptic ulcers may have a varying etiology and that the real cause of acute and particularly chronic ulcer is still to be revealed. Only when we shall know the exact cause of an acute ulcer and the factors that interfere with its healing, shall we have a definite rational therapy.

DIAGNOSIS.

The diagnosis of peptic ulcer is based upon clinical, laboratory and X-ray evidence. Inasmuch as Dr. Hickey is to present the X-ray findings of ulcer, I will omit reference to this phase of the question.

The *peptic ulcer* of the stomach occurs more commonly in women, in young adult life. Some cases are latent in their picture, while many present symptoms of hyperchlorhydria with pain from time to time. The onset is insidious, at first with a feeling of fullness and distress, and then later pain, nausea, and vomiting.

Pain is the most important of the symptoms and the time of its appearance helps to distinguish gastric from duodenal ulcer. Generally it appears a few minutes after eating, but may be delayed to an hour. It is made worse by food, especially coarse food, and increased by epigastric pressure. If vomiting occurs pain is relieved. The pain is of a burning or gnawing character and not cramp like. When the pain is continuous, then some complication is present and we no longer have a simple gastric ulcer. Sometimes the pain is referred around to the back and there is also tenderness in the region of the tenth dorsal vertebra, especially to the left of the spine. Boas attaches a diagnostic importance to this tenderness and has devised an algesimeter to measure it. A localized epigastric tenderness is usually present.

In all of the cases hemorrhage occurs, sooner or later, and it is a complication. In most of the cases, the blood can only be detected by chemical or microscopical methods in the stomach contents or the stools. In many, however, it is visible hemorrhage. According to the amount of blood lost, the effect on the patient and the appearance of the patient will vary, and the blood if large in amount will be bright in color, and dark if small in amount, especially if it has remained for any length of time in the gastro-intestinal tract. *Usually* death does not occur from hemorrhage from a gastric ulcer.

Vomiting does not occur in *all* gastric ulcers but it is common and when it does occur, it is usually at the height of digestion, i.e. two or three hours after eating.

The examination of the stomach contents in 95 per cent. of the uncomplicated cases show a hyperchlorhydria in which the free acid and the total acid may be two or three times the normal. Occult blood is usually present and microscopic blood is common..

Duodenal ulcer is more common in males from 20 to 40. Patients at first complain of a general discomfort and sense of weight. Later they complain of pain, two or three hours after eating. When liquids are taken, pain comes earlier. The pain is relieved by taking food. Moynihan describes the pain as a "hunger pain" and says it often wakes the patient in the early morning. This is relieved by taking food or alkalie and the patient goes back to sleep.

There is at times tenderness in the epigastrium a little to the right over an area two or three inches in diameter. The upper part of the right rectus muscle may show some rigidity.

Many cases exhibit a periodicity to attacks and complete abeyance between attacks. These may follow exposure to cold or wet or indiscretion in the diet or mental shock or worry. Again the attack may be cut short by rest or by a vacation. *Chronicity* is a common story, and cases may extend over as many as forty years with periods of intermission.

When a stage of obstruction due to contraction of an ulcer scar or adhesions occurs, then we get a characteristic picture of motor insufficiency. Peristaltic waves are visible on the external surface from left to right and inflation shows the presence of the large stomach.

Hemorrhage is a complication, and is a *late symptom* for it usually means erosion of a deep vessel. The ulcer should be recognized before this stage. Occult blood is present in every case and will always be found if sought for repeatedly.

The *stomach test* in *recent* duodenal ulcer usually shows a hyperchlorhydria just as in gastric ulcer. In the *chronic cases* however, the titrations may show subacidity. The motor power is very good if no mechanical obstruction is present and the stomach may even empty too quickly.

In the differential diagnosis of gastric from duodenal ulcer the time of the pain is very important. If it appears early within an hour it speaks for a gastric ulcer, while after two hours means a duodenal ulcer.

The recurrence in seasons occurs in duodenal cases.

Vomiting is more common in gastric and rare in uncomplicated duodenal ulcer.

Ulcer must be differentiated from all other lesions of the right upper quadrant. The differential diagnosis of lesions of the right upper quadrant of the abdomen in the typical cases is very easy. In the atypical cases, especially those associated with complications, the diagnosis is not only extremely difficult but at times impossible. Before giving the differential points I shall, for the sake of clearness, give the impor-

tant signs and symptoms of these lesions, especially those which are of importance in the differential diagnosis.

Disease of the gall-bladder in typical cases is easy of recognition, but in atypical cases the symptoms are anomalous and difficulties of diagnosis arise which are almost insurmountable.

The presence of jaundice with a gall-stone attack makes the diagnosis easy. However, many patients never have jaundice. Likewise, the finding of gall-stones in the stools determines the diagnosis—but in most cases no stones are passed. Gall-stones are more common in women, especially middle aged. A history of a previous attack of typhoid is important.

The *pain* in gall-stone colic is excruciating—much more so than ulcer, unless the ulcer is in the perforating stage. The pain occurs independently of eating, is not relieved by food, and may even be made worse by it. The pain is felt in the right upper abdominal region and is often referred to the right shoulder blade. It appears within an hour of food taking, *especially after greasy foods.*

Chilliness or even a chill may accompany a biliary colic and fever may be present. Vomiting occurs soon after the initial pain and often with sweating and depression. Nausea and vomiting occur in gall-stones without colic, leading the patient to believe that the trouble is with the stomach.

Tenderness over the gall-bladder is common and one may palpate tenderness of the liver in the region of the gall-bladder or find a Riedel lobe that is tender.

The *stomach-test* shows a normal stomach picture with normal motor power unless there are complications present such as common-duct stone or adhesions causing mechanical obstruction. Often a subacidity is found and rarely a hyperchlorhydria.

Perforation of a gastric or duodenal ulcer will produce a similar picture to a severe gall-stone colic.

In perforation there is an acute, violent, tearing, constant pain, followed by collapse, rigidity, tympanites and loss of liver dullness. A leucocytosis occurs quickly and soon the picture of generalized peritonitis begins, or if subacute perforation has occurred a circumscribed abscess and extensive adhesions to other organs may result.

Cholecystitis, with or without gall-stones, may simulate ulcer. A pyogenic infection of the biliary passages is usually associated with chills and fever and a leucocytosis. Besides localized tenderness over the gall-bladder area, there are frequently the signs of Cholangitis. The absence of the laboratory and clinical findings of the other lesions mentioned is a great help in the differential diagnosis. With adhesions between the gall-bladder and pylorus, motor insufficiency of the stomach may be present. In the interval between attacks of Cholecystitis, tenderness can often be elicited over the gall-bladder, especially on deep palpation.

Cancer of the stomach, especially of the pylorus, may cause difficulty, for it requently occurs on an ulcer basis. The cases with metastatic growths are easy of diagnosis; but before metastatsis occurs one can still make the diagnosis by the history, by the palpation of a tumor mass, cachexia and anemia and the laboratory findings for carcinoma, especially the absence of free hydrochloric acid and the presence of the Oppler Boas bacilli along with the lactic acid. Numerous biologic tests have recently been developed for the early diagnosis of carcinoma, such as the Salomon test for albumen in the fasting stomach contents, the Tryptophan test, the Abderhalden test, and the Complement Fixation test of V. Dungren. But although all of these are helpful, none is infallible.

The attacks of gastric crises in locomotor ataxia have often been misleading in the diagnosis of these lesions. Many cases, I am sorry to say, have been operated upon with a mistaken diagnosis of gall-stones or ulcer. If a careful physical examination is made, such mistakes can be avoided.

The *colic* which occurs in lead poisoning may also be confusing, but here again a careful history and physical examination will avoid mistakes. The referred pain in *appendicitis* or the pain of an abnormally high appendix may give the picture of pain in the upper abdomen with nausea and vomiting. These cases are all the more confusing because an appendicitis is not infrequently associated with a gall-bladder disease or a duodenal ulcer. *The Dietl crisis* of a floating kidney may give a confusing abdominal picture, but here again the history of an improvement of the clinical condition following it, as well as a careful abdominal examination, and, if necessary, a catheterization of the ureters, will make the diagnosis certain. The sudden pain associated with *renal calculus, renal new growth,* or a *renal infection,* may give a confusing abdominal picture, but here again, the careful physical examination and a study of the urine with or without ureteral

catheterization, will help to clear up the diagnosis. Permit me to emphasize to the uninitiated that an examination by all methods, including the X-ray, must cover both kidneys, both ureters and bladder, if mistakes are to be avoided, no matter which side is seemingly the cause of symptoms. *The rupture of an extra-uterine pregnancy* or an *ovarian cyst,* may also give a confusing picture, but this can be eliminated by a pelvic examination. The *colic associated with the passage of some indigestible matter through the bowel* or the acute gastro-interitis following an indiscretion in diet must also be considered.

Diseases of the *pancreas* and *tumors* of the pancreas are very confusing in the diagnosis of lesions of this region. The diagnosis must largely be made by exclusion. One should never forget the picture of acute Pancreatitis with a severe colic, nausea, vomiting and collapse, which resembles very closely the picture of perforating ulcer or the rupture of the gall-bladder or the appendix. A localization of the tenderness to the epigastrium, along with a circumscribed distension in this region, and particularly the picture of shock and collapse out of proportion to the other findings should help make one alert for acute pancreatic disease.

I have not attempted to consider infrequent or rare lesions which may cause symptoms or signs in the region considered, for this would necessitate a paper of unusual length. A diaphragmatic pleurisy, pneumonia of the lower right lobe, subdiaphragmatic abscess, splenic anemia and syphilis of the liver may give rise to findings in the upper abdominal quadrant. The definite physical, laboratory and X-ray findings of these lesions will help to eliminate them in the differential diagnosis. The last named, syphilis of the liver, deserves special mention, for the clinical picture is so variable and the history often impossible to determine. The picture of gall-stones may be simulated very closely by syphilis of the liver and it is well, whenever the slightest doubt that liver pathology is present, to have a Wasserman test made.

ACUTE FIBRINOUS BRONCHITIS.

Report of a Case.

N. R. LAWHEAD, M. D.
DETROIT, MICHIGAN.

The report of a case of Acute Fibrinous Bronchitis by Dr. W. H. Marshall, Flint, Michigan in the December issue of the *Journal* of the *Michigan State Medical Society* prompts me to report an almost identical case.

Arthur S.—Aged 6—School boy. Seen first November 17, 1920.

Family History—Negative.

Personal History—Whooping cough, winter 1917-1918, lasting three months, Measles, April 1919.

Present Illness—On November 15th complained of slight headache, sore throat and a slight pain in the right chest. When seen November 17th the face was flushed, breathing somewhat difficult, very restless, coughing at intervals, which was very dry and unproductive. Some difficulty in swallowing due perhaps to the condition of the throat.

Examination at this time showed temperature 102, Pulse 136, Respiration 28, tongue heavily coated, both tonsils were very large reaching almost to the uvula on either side and very red. The lungs showed a small area of dullness in the right lung posteriorly over which there was bronchial breathing. Anteriorly a few sibilant rales were heard over both lungs.

On the 18th some cynosis was noticed at times about the lips, breathing more difficult. Temperature 102, Pulse 140, Respiration 38. Diffuse sibilant rales heard over both lungs. During the night and next morning the child had several attacks of dysponea and cynosis, usually terminated by emesis of considerable mucous. Emetic doses of Ipecac was ordered for these attacks and later in the day a cast was coughed up. Unfortunately no examination could be made of the cast as the mother forgot to save it; however from her description it was branched, about 20 cm. in length, greyish in color and very tough.

After expulsion of the cast the boy was immediately relieved of cynosis and dysponea. Examination made a few hours later showed diffuse sibilant rales over both lungs anteriorly. Posteriorly on the right side there was an area of dullness extending from the 4th to the 8th rib over which there was bronchial breathing and increased voice sounds, above this area sibilant rales wer heard. The left lung showed practically the same signs with the exception that dullness extended higher —3rd to 8th rib, reaching to the axilla on both sides.

The temperature remained at 102 for about 24 hours after which it dropped rapidly to normal and did not again come up. The boy continued to expectorate freely for a few days. Lungs showed no abnormal findings four days later. Since this time the boy has remained well and has returned to school.

Repeated cultures of both nose and throat both before and after expulsion of the cast were negative for Diphtheria Bacillus.

9310 Kercheval Ave.

The Journal
OF THE
Michigan State Medical Society
ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

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Entered at Grand Rapids, Michigan, Postoffice as second class matter.

Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized July 26, 1918.

All communications relative to exchanges, books for review, manuscripts, news, advertising, and subscription are to be addressed to F. C. Warnshuis, M.D., 4th Floor Powers Theater Building, Grand Rapids, Mich.

The Society does not hold itself responsible for opinions expressed in original papers, discussions, communications, or advertisements.

Subscription Price—$5.00 per year, in advance.

January

Editorials

THE NEW YEAR.

In meditating upon the trend of thought that we contemplated to include in our New Years greeting the message that seemed most appropriate manifested itself in the following tale that was told to us while in service by one of the eye witnesses. In the Argonne Drive a certain Lieutenant was leading his platoon, under heavy fire, toward a designated objective. Just as half of the distance had been covered he fell mortally wounded. His non-com went to his aid and bending over him this dying officer uttered his last command in these words: *"Sergeant, the command is forward."*

Certain objectives are being sought by our profession today. Objectives which, when attained, will bequeath a heritage to all of better and greater benefits. To secure them, to realize them we as individuals and as organizations must respond to and obey the command of Forward!

Forward to a fuller realization of our responsibilities. Forward to a consummation that will enable us to convey to those who are charged with the duty of safe guarding the health of our people that as a profession we merit just consideration as well as freedom from limiting legislation. Forward, in platoon fronts, to record our protests so effectively as to accomplish the defeat of the ends sought by those who would shackle both the people and the profession with compulsory health legislation. Forward to the objectives that will increase our individual efficiency and capability.

As an organization may we make that progress during this new year that will witness a contribution by each member of more than his membership dues. May we by definite act and endeavor cause a forward advance from our present position as an organization and exert ourselves to assume an activity that will accomplish definite constructive work.

It is our hope that this year will witness such forward movements for then it will indeed be a happy and prosperous one. May we be privileged at its close to record that we have heard and obeyed the command—Forward. Such is the thought we desire to include in our greetings to our members for a Happy and Prosperous New Year.

ANNUAL MEETING OF THE COUNCIL.

The annual meeting of the Council will be held in Detroit, at the Wayne County Medical Society Building at 8:00 p. m. and 9.00 a. m. on January 12 and 13, 1921. The purpose of the meeting is for the transaction of the regular order of business and such other business as may properly come before this body.

W. J. Kay, Chairman.
F. C. Warnshuis, Seretary.

DUES.

The 1921 dues are now payable and their prompt payment to your County Secretary is urged. Please do not invite suspension by neglecting to promptly send in your remittance this month.

BLOOD CHEMISTRY AS AN AID IN DIAGNOSIS AND PROGNOSIS.

Recent developments in the technic of blood chemistry have made this important field of great value to the physician. It can be stated with certainty that by employing these methods far more important information can be obtained than by relying on a complete urinalysis alone. In fact, blood chemical analyses far surpass in value the best known urinary analyses, both qualitative and quantitative.

However, the one should not be replaced by the other. Both should be employed as blood chemistry demonstrates the retained products of metabolism, in other words, indicates what the kidneys *are* and *are not* doing whereas the routine urinalysis shows only what the kidneys *are* doing.

Innumerable estimations of the main blood constituents, which undergo quantitative changes in disease, have shown that these do not vary in amount in normal individuals. The principal ones concerned are uric acid, urea, creatinine and glucose. The first three are of greatest importance in the study of blood changes as a result of degenerative conditions of the kidneys. In early interstitial nephritis there is the beginning of a retention of but one ingredient, namely, uric acid. Later on as the disease progresses urea begins to accumulate and in the more advanced stages the creatinine content increases. These three substances increase in the order named due to the fact that uric acid is the most difficult for the kidneys to eliminate, followed by urea and finally creatinine, which is the easiest. The greatest retention occurs in chronic interstitial nephritis, especially when the uremic stage is at hand. It is at this point that blood chemistry is of value in prognosis of nephritis. The normal creatinine content of blood is 1-2 mgm. per 100 c. c. It has been shown that when the creatinine content of blood reaches 5 mgm. or more per 100 c. c. the prognosis is grave and that such cases terminate fatally.

A comparative blood and urine chemical analysis is the only means of differentiating between diabetes mellitus and renal diabetes. Hyperglycemia may exist without glucosuria and vice-versa. The appearance of sugar in the urine in cases of diabetes mellitus is merely an indication that the threshold point has been passed. A patient may be a true diabetic and his kidneys relatively impermeable to sugar up to a very high point. An analysis of the urine alone would cause the elimination of a diagnosis of diabetes mellitus. The fact that a patient with diabetes mellitus is rid of glucosuria does not indicate that he is in a state of carbohydrate tolerance. If possible his blood sugar should be reduced to the normal of 0.8 per cent. Blood chemical methods alone will show when this condition has been reached.

Blood chemical studies are progressing rapidly and it behooves physiicans to acquaint themselves with the latest advances and to avail themselves of those methods which have proved to be of inestimable value in determining bodily metabolism in health and disease.

THE UNIVERSITY INVITES A CONFERENCE.

To the Editor:

Following our conversation in Chicago on November 11th, I have taken up with the University authorities, the question then discussed of a conference between the staff of the University Hospital and the medical profession. I am glad to be able to advise you that such a conference has been arranged and will be held on January 13th at 2 p. m. at the Michigan Union, Ann Arbor. Invitations are going out to the officers of the State Medical Association, to send delegates, and to other physicians in the State. President Burton will preside.

As I stated to you in Chicago I entirely believe that this method should be productive of good results. On the other hand, your editorial in the current number of the Journal does not seem to me calculated to produce harmony but on the contrary by circulating unfounded rumor and the now thread-bare story which has been repeatedly denied is calculated to stir up bad feeling and disharmony between the parties concerned. My knowledge of the attitude of the clinical men here from the close association during the past year, has convinced me that they are using every endeavor to promote the betterment of medical education, the care of patients, and the interests of the medical profession. If it is the honest desire of the Journal to bring about this same result, I have no doubt that it can be achieved.

Yours very truly,

Hugh Cabot.

We sincerely believe that this conference affords an ideal opportunity for the profession to obtain a true insight into the constructive plans that are being inaugurated by the medical department of our university. It offers a desired opportunity for the members of the medical faculty to meet on a common ground and discuss their commmon problems, interests and future welfare. It tenders a timely occasion for a mutual understanding and the presenting of a program of constructive co-operative activity that will be of benefit to all. It should beget a clearer understanding of each other's activity.

We have always felt that our problems are common ones, that a close relationship should exist and that the profession and the medical department should harmonize their endeavors and conserve each others welfare. Too long has there existed a spirit of indifference for each other. Rumors and charges have floated back and forth with no apparent basic reason other than to continue to foster a spirit of dis-

sension. Such a relationship is indeed undesirable and hence if a full understanding can be obtained we indeed welcome it.

Consequently we urge and sincerely hope that you, who feel you have a grievance, you who feel you have been injured, that you come to this conference and in an open sincere discussion clear up the situation and then join in a co-operative movement for better things.

We invite a goodly response, statewide, to this invitation, and bespeak your constructive criticism and advice. We confidently expect that this conference will result in putting a quietus upon unfounded, unjustified rumors and mis-statements. Plan to be in Ann Arbor and if you write to Dr. Parnall care of the University Hospital he will gladly arrange for your room at the Michigan Union. If you have a grievance and do not attend this conference you have no right to continue to utter harping criticism. Now is your opportunity to get together.

THE USE OF MORPHINE.

A number of years ago when the use and method of exhibiting therapeutic remedies was considered worthy of presentation in a paper at a medical meeting and also found welcome in the columns of medical journals it was not uncommon to read a survey of doctors' opinions as to their dependency upon certain drugs. It was usual to see an expression by capable men that of all the drugs in the pharmacopea if they were limited to a selection of three drugs they would select Opium, Calomel and Nux vomica. That was the most frequently selected combination. Of course there were some who preferred magnesium sulphate, aconite, pilocarpine, potassium iodide, digitalis, but all were agreed upon the need of having opium or its alkaloids. Much has been written and said about opium, drug addicts, the Harrison law and how the profession is responsible for the habitue's use of morphine. The Harrison law was enacted because its sponsors hoped it would limit opium traffic, retard and eventually do away with the opium habit. At least that is what they claimed, but, events and conditions point to the failure of accomplishing such a purpose. On the contrary, it is fairly apparent that the number of addicts is increasing and all that the Harrison act has done is to increase revenue returns by the three dollars per physician license fee. Neither can the charge be made that physicians are prescribing the drug in greater quantities and that the profession is thus responsible for the increased numbers of opium habitues.

An interesting article appeared in the December 11th, 1920 issue of the *Journal of the A. M. A.* in which Dr. Blair discusses the usage of narcotic drugs in hospital service and private practice. His article is based upon Pennsylvania statistics. The doctor reports that in one year the hospitals of Philadelphia used an average of 1.6 grains of opium and its alkaloids per patient. Those of Pittsburgh, 2.9 grains, and of several other hospitals of the state 3.1 grains, the average being in the state 3 grains per patient. In this connection it must be remembered that many of the patients were surgical, emergency and industrial, hence presenting definite therapeutic indications for the exhibition of the drug.

In private practice there is an average of one physician to every 700 people in Pennsylvania. The records show that on an average the private physician employs about four grains per patient per year in 60 per cent. of the practice and the entire private and hospital practice, including chronics, insane and addicts under treatment from the records of medical prescribing equals 15 grains of opium for every person in the state. This includes that used by dentists, veterinarians and patent medicines. In 1919, the Secretary of the Treasury reported that the annual consumption of opium showed on an estimate that counted every man, woman and child—sick and well—in the Union, an annual per capita consumption of 36 grains of opium with an additional unknown supply of smuggled-in opium to be added thereto. Consequently the physicians are prescribing not quite one-half of the opium consumed.

These are the figures for Pennsylvania and they may be taken, we believe, as a representative average of the country. However, we would like to see a similar analysis made of several other states to determine if the same relative conditions exist. In the article there is revealed that 250 physicians exceeded the 15 grains per capita average but it is pointed out that they were men who catered to the addict trade and carried them along on the discredited ambulatory reduction treatment. In all there were only some 600 who exceeded the 15 grains per capita average. Were these men to meet up to the professional average and intelligent use of morphine the per capita amount prescribed by doctors would drop to ten grains.

On the whole the article furnishes much for reflection and indicates as we asserted in the beginning that opium habitues are not wholly the result of the profession's therapeutic use of the drugs.

COMPULSORY HEALTH INSURANCE.

The propagandists who seek to force this class of legislation upon the profession and public are endeavoring to allay professional opposition by stating that by being represented upon administrative boards we will be able to dictate the returns for the services we render. This is the bone they are throwing to us and the "pap" they are trying to ladle out in an effort to suppress our opposition. Please don't be subdued by such meaningless promises.

When the Harrison act was passed and we were taxed one dollar to administer it, we paid. When it was raised to three dollars—we paid. When compensation acts were enacted and medical-surgical services prescribed and defined were we consulted? No! When the Volsted act limiting the prescribing of liquor and restricting its medical use were we consulted? No. The proponents will reply, we are not talking about those laws. No, but the profession is not forgetting about the treatment and consideration received by legal enactments.

Nor are we unmindful of the recompense we now receive from the state administered institutions. We refer to the following pay roll of the Chicago Municipal Contagious Diseases Hospital; as but a sample of what we may expect:

Assistant Medical Superintendent, $150 per month (board and lodging).

House Physician $120 per month (B. and L).

Ambulance Surgeon $120 per month (one meal).

Electrician $225 per month.

Ambulance Driver $150 per month (one meal).

The ambulance driver, who requires but a couple of months of training receives $30 more per month than the ambulance surgeon who was compelled to take not less than six years of college training, not counting high school. Oh, yes, we will dictate our fees and be given what we ask. The proponents know full well the show we stand when bureaucrats and politicians are on these boards to designate what we shall do and what we shall be paid.

We have yet to be shown why this plan is being proposed and pressed. We have yet to be shown why these propagandists are so insistent. We have yet to be shown wherein and how the profession has failed to care for all who need medical services. We know of no place where professional and hospital services are refused the sick and afflicted.

We would like to see the proponents of this plan list the plumbers into panels and cause them to respond night or day at 25 cents per hour pay. No, they wouldn't dare to attempt it for the plumbers are organized while we as a profession are organized in name only. Goodness knows there are more shops, factories, business houses and homes that need sanitary plumbing, more so almost than there are people who are in sore need of medical and hospital services that they cannot obtain. Why look at us.

So again we urge our members to bestir themselves, become more than members. We want aggressive action and concerted effort to defeat this pernicious measure.

Editorial Comments

Somewhere, we cannot just recall, the statement was made or printed that we began life studying to learn and end life learning how to study. It naturally follows that he who fails to attend his county society meeting is failing to learn how to study the problems of his daily work. Hence, that individual is bound to undergo a stagnating process, and become more and more inefficient. What is required is more attending and participating members.

Has any society any particular problems that remain unsolved. If so, why not hold a special meeting for their discussion. Call in the Councillor of your District to deliberate with you.

If transportation companies, gas and electric companies and street railways are public utilities and so amendable to legislative regulations it occurs to us that the Standard Oil Company may also be listed in the class of public utilities and made amendable to regulation. With the number of automobiles in use to-day for business and commercial purposes gasoline is a commodity that is an actual public necessity and utility. With the published reports of millions of profit and increasingly large earnings there does not seem to be any other conclusion but that the present price of gasoline is exorbitant and the profits reported evidence of unjustified profiteering. Oh, yes, we realize that we can not drop a bomb in the Standard Oil Company's midst by this Editorial Comment, still we may be at least a grain of powder in the bomb that can be prepared if a sentiment is recorded.

County Secretaries are requested to forward for publication a report of each meeting of their society. Some of our counties have not reported a single meeting during the past year. Why? Will you send them this year?

The Journal solicits original articles covering or incorporating original investigations or practical observations.

A prompt payment of your dues to your county society is especially urged at this time. Please

do not make it necessary for your county secretary to send you a statement. Send in your check this week.

Watch your local papers for legislative activity and when you note that undesired bills are introduced see and also write your representatives and Senators and thus enlist their influence to defeat such proposed enactments.

We are absolutely convinced that those who are engaged in devoting their entire time to the executive work in connection with the various offices centered in the headquarters building of the American Medical Association are working wholly and solely for the best interests of the profession. We know that they have your welfare at heart and are endeavoring to cause you to realize upon the results of their activities. They merit our confidence and support. As officers they are faithful to the trust imposed.

When the lack of clinical material causes desirable and able men to refuse offers of faculty appointment is it not about time that our medical schools should be re-located so as to overcome such objections?

In our December issue we did not purposely omit our News Notes. The fact was we had no copy. Our newspaper clippings furnished nothing and likewise our correspondents. We urge that each member assume the task of forwarding news items.

The laborer or any employer who loses his life in the performance of his duty is assured that his estate will be compensated for that fatality. The doctor, practitioner or surgeon, who, in the practice of his calling, loses his life, makes the supreme sacrifice without other reward than a credit for having been faithful to his calling. Such sacrifice as a rule is passed by with but little note. Every month witnesses the death of several of our members in the United States who thus contribute their lives in the performance of their duty. And even we, their fellow members, take but pasing note of their deaths. It is only when the sacrifice occurs close to us and the one makes this sacrifice is personally known do we pause and give more than passing heed.

In the death last month of Dr. Enos C. Kinsman of Saginaw there was again recorded a supreme sacrifice on account of duty well performed and a death directly attributable to the work of his calling. A needle prick sustained during an operation upon a patient with septicemia resulted in the development of a virulent streptococcic infection of the thumb and entire arm with extension to the heart and kidneys and a fatal termination. His death marked the close of the life of a capable sympathetic and progressive surgeon. One who was respected and loved; a man whose memory we will cherish.

The answer has been given in the past that the reason the State Board of Registration in Medicine did not assume a more aggressive attitude toward prosecuting unlicensed doctors and quacks was because they had no funds wherewith to secure the necessary evidence. Such reason can no longer be advanced—in fact, need not have been advanced during the past two years. The State Constabulary officers and men are available and willing to dig up the necessary evidence. We were talking to a captain of the State Constabulary the other day and asked him whether his men could be utilized for that purpose. His reply was that if we would but name the suspected individuals his men would secure the evidence. Here, then, is a splendid opportunity for the Board to do some professional house cleaning.

On January first the law became effective changing all the numbers of Detroit business places and homes and many street names. This has necessitated making over a thousand changes in our mailing list. Errors may have been made in making these changes and if they have we respectfully ask that our Detroit members notify us and supply us with the correct addresses.

Yes, January 1st, means payment of dues. Please don't neglect doing so.

The February issue will contain a full report of the annual meeting of the Council.

In the November issue of the Bulletin of the Detroit Department of Health there appears an article dealing with this subject as seen in the school children in Detroit.

At a cost of over one and one-half million dollars Detroit is building a municipal tuberculosis sanitarium at Northville. This will provide accommodations for 300 patients.

There are present in the City of Detroit from 1,100 to 3,500 school children with seriously impaired nutrition. This group is a potential supply house for the tuberculosis of the future.

Can we build accommodations for our tuberculous as rapidly as they are being produced?

Would it not be wiser to begin at the other end and try to eliminate the conditions that make for tuberculosis, to prevent as well as to cure?

A most encouraging start has been made. There are in the public schools of Detroit, open-air classes for the physically subnormal child. There is the summer camp of the Health Department to bring many children back to normal weight.

The open air classes accommodate 250 children. The summer camp looked after approximately 150. Private women's clubs and organizations are giving supplementary feeding to 4,000 children.

There are a number of causes of under-nourishment. With some it is lack of food. In Detroit there are children coming to school without breakfast, sitting through the morning session to imbibe knowledge on an empty stomach.

With others it is an improper choice of food. Coffee and bread served as the breakfast of many of the school children. Coffee is a prominent item at other meals. Soup, meat and fried

foods are popular. The correct choice of food will lead to better nourishment at less cost.

Tonsils, adenoids and decayed teeth retard some children and no amount of food will alleviate the condition until these defects are remedied.

Adequate and properly selected food can not overcome the handicap of insufficient sleep, sleeping in warm, closed rooms, over-fatigue and other violations of the rules of personal hygiene.

Fifty thousand children are slipping from the pathway of good health in Detroit. Many will catch themselves before going further. There are several thousand that have already slipped and assistance is needed to replace them on their feet.

The matter requires the intelligent and well directed efforts of the forces of the City of Detroit.

The proper selection of foods:

1. Milk, eggs and green leafy vegetables are protective foods and liberal use should be made of them.
2. Excessive use of meats should be avoided and substituted with cheese, cottage cheese, fish, eggs, peas, beans and lentils.
3. There is no substitute for butter especially for children.
4. Fruits and vegetables are body regulators. Their liberal use is advised.
5. Avoid the excessive use of sweets. They destroy the appetite for natural foods.
6. Children should be restrained from incessant eating between meals.
7. The diet of the child should be generous.
8. The diet of the adult should be plentiful.

(Bulletin of Detroit Dept. of Health, Nov., 1920, C. H. Chelson).

Deaths

Doctor Enos C. Kinsman was born in Ontario in 1864 and died in Saginaw December 5, 1920. He received his medical education and medical degree from the Chicago Homeopathic Medical School in 1895. He was appointed a member of the Michigan State Board of Registration in Medicine in 1914 and was reappointed in 1915 for the term ending October 1919. He was a member of the Saginaw Board of Health and local surgeon to the Pere Marquette Railroad and the Michigan Central Railroad.

Doctor W. H. Baldwin, Coldwater, Michigan, died November 29th of diphtheria with which he had been ill for a very short time. Doctor Baldwin was 54 years of age and was a graduate of the Detroit College of Medicine and Surgery of the class of 1893. The Doctor had practiced in Coldwater for about twelve years.

The deaths of Doctor G. C. Brock of Smiths Creek and Doctor Frank G. Legg, of Coldwater, not members of the Society, are reported.

State News Notes

Dr. T. A. Felch, who recently retired from the active practice of his profession, was highly honored at Evergreen Inn, Thursday evening, by his fellow members of the Marquette-Alger County Medical Society.

Following a turkey feast, Dr. G. G. Barnett, of this city, who was associated in business with Dr. Felch for a long period of years, took charge of the gathering as toastmaster and called upon many of the members of the society for short talks. The speakers were Dr. H. W. Sheldon, of Negaunee; Dr. L. W. Howe, Dr. Harkin and Dr. H. J. Hornbogen, of Marquette; Dr. V. H. Vandeventer, Dr. H. S. Smith and Dr. Barnett, and Dr. Felch, of Ishpeming. Dr. Smith, on behalf of the members of the organization, presented the honored guest with a handsome pair of platinum cuff links.

Several of the members of the society have been engaged in the practice of medicine in Marquette county for a long time, Dr. Felch having located here in 1875, while Dr. Sheldon and Dr. Barnett were here in the early days. Dr. Felch came to Ishpeming from Ann Arbor, where he spent his boyhood days and where he received his education. He was a member of the staff of the first hospital founded here, and later was a part owner with Dr. V. H. Vandeventer in the Ishpeming hospital. For over forty years he practiced his profession, and he is justly entitled to a rest. Although he has retired, we sincerely trust that he will continue to make Ishpeming his home.

On December 7th the Michigan Hospital Association joined the American Hospital Association following an address by Dr. Andrew R. Warner, executive secretary of the national association. The association recommended legislation providing for higher standard of qualification for trained nurses, the establishment of another class of nurses to be called attendants to assist trained nurses, the annual registration of both classes and changes in the length of appointments of members of the State Board of Health.

Through the efforts of the members of the Michigan Department of Health, the Lansing Section of the Society of American Bacteriologists was organized late in October. This Section number 50 charter members. The majority of these are either associated with the Michigan Agricultural College or with the various state departments. The local physicians are eligible to membership if they so desire.

At a special meeting of the Michigan State Board of Registration in Medicine, held in Detroit on December 15th, the licenses of Doctors E. B. Gibson and George E. Brown of Detroit were revoked. Both of these physicians were convicted in the Recorders' Court, Detroit, for violating Act 272 of the Public Acts of the State

of Michigan 1919. (Failure to report Venereal Disease).

A special meeting of the Michigan State Board of Registration in Medicine has been called for December 15th, in Detroit to consider the cancellation of physicians' licenses who have been convicted of violations of Act 272 of the Public Acts of 1919 involving the failure to report venereal diseases.

Dr. Goldwater, Superintendent of Mount Sinai Hospital, New York, has been retained as Consultant and Robinson and Campau of Grand Rapids have been engaged to prepare the plans for the New Butterworth Hospital, Grand Rapids.

Tentative plans are being discussed for a 10 story office building for physicians and dentists in Grand Rapids. The building to be built and administered under a co-operative plan. It is proposed to include an auditorium, cafe and library.

Doctor and Mrs. Arthur D. Holmes of Detroit gave the debutante ball at the Statler Hotel November 19th, honoring their youngest daughter Miss Agnes May Holmes. The ball was preceded by a number of dinner parties. Doctor and Mrs. B. R. Shurley were the hosts at one of these. A number of the Detroit medical profession and their wives were present at this ball.

Doctor J. B. Kennedy, Chairman of the Legislative Committee of the Wayne County Medical Society, attended the December meeting of the Alpena County Medical Society and addressed the members upon the subject of State Medicine. As a result the society unanimously passed a resolution condemning the principles involved in State Medicine.

Doctor J. B. Kennedy, Chairman of the Legislative Committee of the Wayne County Medical Society, talked in a most interesting and instructive manner to the members of the Michigan State Board of Registration in Medicine at their special meeting on "State Medicine."

On November 29th the Entertainment Committee of the Wayne County Medical Society, headed by its genial chairman, Doctor John Dodds, pulled off a howling success in the form of a "feather party." There was a record breaking attendance, the hall was crowded and everybody appeared to have a good time.

The Michigan Department of Health covers every health field in Michigan, there being bureaus of sanitary engineering, laboratories, communicable disease, venereal disease, education, embalming, and child hygiene and public health nursing.

The next frolic of the Wayne County Medical Society is scheduled for the evening of January 31st. The Entertainment Committee is not announcing what form it will take. They simply advise the members not to miss it.

Doctor Clyde F. Karshner of Chicago read a paper before the Medical Section of the Wayne County Medical Society on December 13th, on "The Non-surgical Drainage of the Gall Bladder."

Doctor Wadsworth Warren of Detroit was appointed December 9th to the Welfare Commission by Mayor James Couzens to take the place of James McNamara who died recently. Doctor Warren's term will run to March 1, 1924.

Doctor D. Milton Green, for a number of years a practitioner of medicine in Grand Rapids, is chairman of the executive committee and head of the surgical staff of the Municipal Highland Park Hospital.

The following physicians had tables at the D. A. C. Election Night Party: F. G. Buesser, C. D. Brooks, F. J. W. Maguire, B. R. Shurly, Carl S. Oakman, W. H. Morley and R. C. Jamieson.

The State Board of Registration in Medicine will hold a special examination in Detroit early in January. The exact date will be announced later.

Following the special meeting of the Michigan State Board of Registration in Medicine, Doctor Frank Kelly entertained the members of this board at dinner at the Detroit Athletic Club.

Doctor E. B. Forbes who is one of Detroit's best amateur bowlers, stood third in the November list of the D. A. C. with an average of 187.

Doctor J. B. Kennedy of Detroit was reappointed Library Commissioner by the Detroit Board of Education on December 10th. The term is for six years.

Miss Margaret Longyear, youngest daughter of Doctor and Mrs. H. W. Longyear of Detroit was married December 11th to Mr. W. B. Palmer, Jr., of New York City.

Doctor Joseph Belanger of Detroit spent ten days at Watkins Glen N. Y. during the month of December.

Doctor George LeFevre was elected last November City Councilman of Muskegon for the term of four years.

Doctor E. W. Haass of Detroit has returned from Palm Beach, Florida. This was primarily a professional, not a pleasure trip.

Dr. Louis Barth of Grand Rapids is planning a trip around the world and contemplates leaving the latter part of February.

Dr. W. Riley has become associated with Drs. R. J. Hutchinson and Beel of Grand Rapids.

Doctor and Mrs. Justin E. Emerson of Detroit are spending the winter in St. Petersburg, Florida.

Dr. D. Emmett Welsh spent the holidays with relatives in Pennsylvania and New Jersey.

COUNTY SOCIETY NEWS

It is the Editor's desire to have this department of the Journal contain the report of every meeting that is held by a Local Society. Secretaries are urged to send in these reports promptly

GENESEE COUNTY.

The Genesee County Medical Society met on Wed. Dec 1st. 1920. Pres. Orr presiding. A clinical section of the Society was formed. This section will meet twice a month. The programs will be given by local men and will include clinics and reports of cases. As our regular meetings are addressed by out-of-town men, it is hoped that this plan will stimulate our members to scientific activity.

Dr. Louis J. Hirschman of Detroit, gave an excellent address on "Some Pitfals in Proctology." Methods of examination of the Colon, Sigmoid and Rectum were described and a brief resume of interpretation of findings was given.

W. H. Marshall, Sec'y.

GRATIOT-ISABELLA-CLARE COUNTY.

The November meeting of the Gratiot-Isabella-Clare County Medical Society was held in the Methodist Church in Alma, Thursday, Nov. 18.

For out-of-town guests we had Pres. Angus McLean and Dr. W. R. Clinton of Detroit.

The applications of Doctors A. T. Getchell, M. G. Becker, F. C. Sanford, B. J. Sanford, W. F. Clute, R. S. McClinton and M. J. Budge for membership, were received, and upon recommendation of the Board were duly elected to memberships.

Dr. Angus McLean then gave a very interesting talk on "Progress in Medicine for the Last Three Decades."

Dr. W. R. Clinton read a carefully prepared paper on Radium, explaining how it was used, and the therapeutic effects in benign and malignant growths.

E. M. Highfield, Sec'y.

GRATIOT-ISABELLA-CLARE COUNTY

The annual meeting and banquet of the G. I. C. was held in Alma Thursday, Dec. 16. The business meeting was called to order by President Lamb at 4:30. The application of Dr. G. E. Lamb of Farwell was received and by motion he was elected to membership. The annual report of the Secretary was read and approved.

The following were elected officers for 1921:

President—L. J. Burch, Mt. Pleasant.

Vice-President—R. E. Smith, Alma.

Secretary—E. M. Highfield, Riverdale.

The annual banquet was served in the Baptist Church. Thirty-one enjoyed the turkey and other goodies, after which Doctor and Mrs. Foust and S. E. Gardiner responded to toasts. The program was shortened through the illness of Doctors C. F. DuBois and W. E. Barston.

E. M. Highfield, Secretary.

INGHAM COUNTY.

The Annual Meeting and Banquet of the Ingham County Medical Society held at the Hotel Downey, Nov. 18th was very well attended. The membership at present exceeds any year in the history of the Society. The retiring President Dr. F. M. Huntley presided and Mr. Edmund C. Shields spoke on the Medical Profession from the standpoint of a member of the legal profession. He urged physicians to take more active part in public affairs. Dr. H. S. Bartholomew gave a short talk on Medical men in public life. Excellent music was furnished by an orchestra composed of members of the Society, under the direction of Dr. F. M. Harris.

The following officers were elected for 1921:

President—Dr. Fred J. Drolett.

Vice-President—Dr. M. L. Holm.

Sec'y and Treas.—Dr. Milton Shaw.

Delegates—Dr. B. M. Davey, Dr. S. Osborn.

Alternates—Dr. E. J. Carr, Dr. Karl B. Bruker.

Medico-Legal Representative—Dr. B. D. Niles.

A committee was appointed to investigate the State Industrial School buildings and property to determine the feasibility of the City of Lansing acquiring the property for hospital purpose.

Milton Shaw, Sec'y.

KENT COUNTY

The annual meeting of the Kent County Medical Society was held at Grand Rapids on the evening of Dec. 8th, 1920. After the usual yearly reports, the following officers were elected for 1921:

President—Dr. James S. Brotherhood.

Vice-President—Dr. Henry M. Blackburn.

Secretary-Treasurer—Dr. Frank C. Kinsey.

Defense League Representative, Dr. G. L. McBride.

Delegates to State Society—Dr. Frank C. Kin-

sey, Dr. J. D. Brook of Grandville, Dr. A. V. Wenger and Dr. F. J. Lee.

Alternates—Dr. W. E. Wilson, Dr. V. M. Moore, Dr. T. C. Irwin and Dr. A. H. Edwards. Dr. Frances A. Rutherford, one of Michigan's pioneer women physicians, was made an honorary member of the society.

Frank C. Kinsey, Secretary.

KALAMAZOO ACADEMY OF MEDICINE.

Report of the Secretary.

With this the annual meeting of the Kalamazoo Academy of Medicine closes a very successful year of work when viewed as a whole.

We have had sixteen regular meetings during the year. For a time the attendance was not up to the usual mark and it was decided to try an evening meeting. However, the attendance did not increase and practically the same physicians attended as usual. For this reason your officers —with whom the decision for future evening meetings was left—held they were not justified in further experiment in that it inconvenienced some of the men outside of Kalamazoo. For the last of the meetings the attendance has increased considerably as has general interest in the work of the Academy.

Your Secretary wishes to commend the work of the various committees, and calls attention to those who have made written reports.

The Academy lost one member—Dr. Bruce E. Leighton—by death.

The Academy was host to the Michigan State Medical Society during the past year.

Your Secretary also wishes to call attention to the increase in dues by $1.50 over the usual amount.

Respectfully submitted,
B. A. Shepard, Secretary.

Report of Treasurer.

Receipts, 1920

62 Active City Memberships	$527.00	
56 Active County Memberships	336.00	
4 Associate Memberships	12.00	
Interest on Savings Fund	2.82	
Overpaid Dues, Dr. Pitz	1.00	
War Assessment	5.00	
		$ 883.82

Expenditures, 1920

State Society Dues	$420.00	
Guests	23.15	
Postage and Stationery	69.10	
Printing Bulletins	209.10	
Library	84.00	
Telephone	59.95	
Lights	7.34	
Flowers	43.00	
Insurance	11.22	
Auditing, 1919, Treasurer	15.00	
Annual Banquet	50.55	
Refund of Overpaid Dues		
Dr. Pitz.	1.00	
Dr. Crane	8.50	
Janitor	31.18	1,033.09
Deficit, 1920		$ 149.27

Contributions for Entertainment State Medical Society	$940.00	
Receipts from Country Club Luncheon	67.50	
Receipts from Banquet, K. P. Hall	565.00	1,572.50
Expenditures for Entertainment State Medical Society.		
Banquet, K. P. Hall	750.00	
Lunch at New Burdick	250.00	
Luncheon at Country Club	109.00	
Fischer's Orchestra	36.00	
Cigars and Cigarettes	59.15	
Alumni Girls' Quartet	25.00	
Kalamazoo Sign Co.	20.00	
Horton-Beimer Press	10.00	
Refund to members from entertainment fund	45.50	1,304.65
Balance for General Fund		$ 267.85
Balance from 1919		
Savings account	$188.61	
Checking account	313.49	
Balance from entertainment fund	267.85	769.95
Deficit in General Fund for 1920		149.27
		$ 620.68
Nov. 30, 1920, First National Bank Savings account	$191.43	
Checking account	485.00	676.43
Vouchers outstanding		
Oct. 20, D. Emmet Welsh, No. 267	$ 3.50	
Nov. 15, Horton-Beimer, No. 271	40.50	
Nov. 15, Dr. N. E. Leighton, No. 272	3.25	
Nov. 15, Dr. Udo J. Wile, No. 273	8.50	55.75
		$ 620.68

Respectfully submitted,
Dan H. Eaton, Treasurer.

The auditing committee verifies the Treasurer's report as per audit.

C. B. Fulkerson,
W. A. Stone,
A. S. Youngs.

Annual Report of the Anti-Tuberculosis Committee.

No other important matters coming before it, the work of your committee during the past year has been to co-operate with the Department of Health and Welfare in conducting the work of the Dispensary and also with the State Board in making its Tuberculosis Survey.

Respectfully submitted,
Ward E. Collins, Chairman.

Report of the Librarian.

The following journals on file in the Academy have been carefully selected to meet each phase of the medical interest and individual interest:

American Journal of Medical Science.
Archives of Internal Medicine.

Medical Clinics of North America.
Surgical Clinics of Chicago.
Surgery, Gynecology and Obstetrics.
Annals of Surgery.
Journal of Laboratory and Clinical Medicine.
Journal of Endochinology.
Journal of Infectious Diseases.
American Journal Disease of Children.
American Journal of Syphilis (donated by Dr. J. T. Upjohn).
Annals of Medical History.

The shelves of the Library are pitifully inadequate for even the few books and journals.

A complete file from the early part of the nineteenth century to the time of Dr. Van Deusen, which he treasured, are retained and of interest, while several shelves of old monographs and treaties dating back even to 1739, in Medicine, Midwifery, Surgery and Mental Diseases are valuable and entertaining.

There is an opportunity of building up the historical side of the library from these old books and the Annals of Medical History which was begun just before the War—together with Kelly's New Biography of Medical Persons.

Journals and books are lost because members in taking them out do not make a record in the record book.

Blanche N. Epler, Librarian.

Report of Program Committee

The program committee has made an effort to present programs of real value throughout the year. This aim, we feel sure, has been realized and every program has been well worth attending. It has been the aim, as far as possible, to have at least one number on the program, given by a member of the local society. For the most part this has been done. We believe that the members of the Academy should realize their responsibility in this matter and that the plan of having at least one of the papers from the local society should be continued.

The program committee has been considerably embarrassed from time to time during the year by securing distinguished essayists from out of town and then being able to secure the presence of only a few of the members at the time the paper was presented. If the Academy wishes to maintain the standard of essays that we have enjoyed in the past, it would seem to be necessary that the meetings be more largely attended.

Dr. John B. Jackson,
Dr. Geo. F. Inch,
Dr. Ralph E. Balch.

MUSKEGON COUNTY.

The annual meeting of the Muskegon County Medical Society was held at the Century Club, Dec. 10, 1920.

Dr. H. M. Richter of Northwestern University Medical School gave a very interesting talk on the Differential Diagnosis and Surgery of Gall Bladder Disease.

After the scientific program the Society proceeded to the election of officers with the following result:

President—J. T. Cramer, Muskegon.
Vice-President—Dr. Geo. L. LeFevre, Muskegon.
Secretary-Treasurer—Dr. E. S. Thornton, Muskegon.
Delegate—Dr. F. B. Marshall, Muskegon.
Alternate—Dr. F. W. Garber, Muskegon.
Medio Legal—Dr. Geo. L. LeFevre, Muskegon.
Diretors: Dr. A. F. Harrington, Dr. F. B. Marshall, Dr. G. J. Hartman.

Three new members were reeived into the Society at this meeting.

Yours truly,
J. T. Cramer, Sec'y.

ST. JOSEPH COUNTY

White Pigeon, Mich., Dec. 11, 1920.

My Dear Doctor:—

It has been one year since the Medical Society of St. Joseph County was reorganized, and every one realizes immediately what great benefits we derived from this Society and a little co-operation.

You know there is no professional class on God's green earth that could get what they want as quickly as the doctors. And, on the other hand, there isn't a bunch on God's green earth that's ready to dig "the other fellow," just a little, like the doctors. We have, thanks to our co-operation, enjoyed a nice, lucrative year. But after our strenuous day's work, we have let our Society go to the devil; we do not attend meetings, or even make an effort to. Some of the old heads told us it wouldn't last a year, and they are about right.

Now, let's get together and make one more mighty effort and keep the Society on top.

We have lots of things confronting us, and our Society can be of inestimable value to us. There is a period of reconstruction upon us. A drop in fees is urged by laity; compulsory health insurance; life insurance examination fees, and seven more doctors to be brought into the fold. County hospital project; T. B. and venereal clinics and other conditions are bound to come up. Every one of us is now delinquent. Our State Society wants and needs us, which in turn builds up the A. M. A.

In view of all these things, the officers of this Society hereby call a meeting at Hotel Elliot, Sturgis, at eight o'clock P. M., December 17, 1920, for transaction of such business as may properly come before it.

Now, Doctor, listen—do not throw this aside. Make a mental reservation of the date and time, and come. No one will be asked to "spiel." This is purely a social and business meeting. Dinner will be $1.50 the plate. Just tack a little on that guy's bill to get you by, you know. It's come or ruin, going or quits, win or lose. And now, honest, Doctor, have you done your duty to keep it going? We couldn't run it alone, you know. We need your presence—that's the big thing. Doctor, if you are sore at the other fellow, down in the mouth about something, sore on the Society or disgruntled, forget it, for God's sake and your sake and come out. Or, to quote one of the officers, we'll "let 'er go to hell."

Remember, your presence is the big thing. **Come!**

Read these next few lines closely. We will order dinner for the whole gang, and, providing the secretary's doesn't hear from you in the next few days that you cannot possibly attend, you will be assessed the price of the dinner along with the other expenses of the year, per capita, which will require a personal trip to each doctor by the treasurer, because, if we don't turn out this time, it's the **last** call. Now, that's straight; you won't be bothered again with notices. Just to repeat—Last call, Elliot House, Sturgis, 8 o'clock, social and business. Come, yourself; don't depend on other fellow.

David M. Kane, President.
Fred A. Lampman, Secretary-Treas.

ST. JOSEPH COUNTY

At meeting of St. Joseph County Medical Society, Dec. 17, at Sturgis, Mich., we had an average attendance. Considering roads we were well pleased.

Moved by Dr. Watkins, seconded by Dr. Miller that the present officers, Dr. Kane, Sturgis, Pres., and Dr. Lampman, Secretary, White Pigeon, continue office for another year. Motion carried.

Following report for the year by the treasurer motion made by Dr. Burdens, seconded by Dr. Robinson, the dues of county society be $7.00. Motion carried.

The following doctors then enrolled for 1921: Drs. Kane, Lampman, Miller, Kelley, Robinson, Runyan, Burdens, Cameron, Watkins, Barney.

An interesting discussion on Compulsory Health Insurance and Hospital projects followed. Dr. Kane was appointed to see our representative relative to Compusory Health Legislation if brought up at next session. Meeting adjourned subject to call of president.

Fred A. Lampman, Secretary.

TRI-COUNTY

"As beneficial as a short post-graduate course at any good medical college," was the comment one Cadillac physician made concerning the clinic held here Thursday by doctors from the staff of the Battle Creek sanitarium.

About forty doctors from Northwestern Michigan attended the clinics, lectures and demonstrations given by the visiting team. Every hour of the day was completely taken up with the work and enough medical knowledge was imparted to fill several ordinary days, it is stated.

The doctors from Battle Creek who directed the various tests and gave the lectures were: Dr. L. Eggleston, internist and team captain; Dr. Joseph T. Case, surgeon; Dr. W. O. Upson, roentgenologist; Dr. G. M. Dobbin, laboratory. Miss Hayne, registered nurse and assistant to Dr. Eggleston, also came to assist in the preparation of cases for the clinics.

An excellent group of cases was provided for the demonstrations. One particularly good gall case provided an opportunity to enlighten the visiting doctors on the non-surgical drainage of the gall bladder. By this method, which is entirely new, the contents of the gall bladder are removed for diagnosis by means of a tube swallowed into the stomach and gradually worked into the gall duct. This obviates the necessity for operating for diagnosis. The X-ray will show gall stones, say the doctors, but other conditions are not easily determined without opening the gall bladder.

One abdominal surgical case was operated upon and Dr. Joseph Case performed the operation while Dr. Eggleston lectured on each successive step. The entire preparation of the case was done before the visiting doctors who saw the blood count, urinalysis and other preparatory work performed.

A barium meal was given one patient for the purpose of diagnosing internal trouble by means of the flueroscope. By this method the stomach is outlined by means of food impregnated with salts of barium, which is metallic and opaque to the X-ray. The fleuroscope is in effect a moving picture of the living organism and projects the X-ray through the body and onto a screen where the observers may watch the functioning of the organs.

The program included laboratory and X-ray clinics at Mercy Hospital in the morning; surgical clinic in the afternoon; medical clinic in the American Legion club rooms later, followed by a banquet at the Hotel McKinnon. Following the banquet there was a business meeting of the society and a lecture illustrated by stereopticon slides.

Physicians from Cadillac to the Straits are included in the membership of the Northwestern Michigan Clinical Society.

Officers for next year were elected as follows:

President—Dr. G. W. Fralick, Maple City.

Vice President—Dr. F. S. Rowley, Traverse City.

Secretary-Treasurer—Dr. Frank Holdsworth, Traverse City.

The retiring officers are: President, Dr. R. R. Armstrong, Charlevoix; Vice President, Dr. G. W. Fralick, Maple City; Secretary-Treasurer, Dr. B. H. Van Leuven, Petoskey.

The Tri-County Medical Society including the medical men of Wexford, Missaukee and Kalkaska counties, were hosts to the district society.

After the election of officers an appeal was made by Dr. O. L. Ricker that the Society follow the example of the American Medical Association and the State Medical Society and go on record as opposing state medicine and the plan of treating large groups by contract. A resolution to this effect presented by Dr. G. D. Miller was unanimously adopted by the Society.

Book Reviews

THE RADIOGRAPHY OF THE CHEST—PULMONARY TUBERCULOSIS. Walker Averend, M.A., M.D., East Sussex Hospital, London, England. Cloth, 119 pages, 99 radiograms. C. V. Mosby Co., St. Louis, Mo. Price $5.00.

The progress of recent years of Roentgen-ray diagnosis of pulmonary disease has established the value of this means of arriving at a more

accurate diagnosis. The correct interpretation of a given plate is the test of this adjunct and to correlate the ray and clinical findings. To make accurate readings more possible and to interpretate the plate correctly the author has here presented a text that imparts a technic and correct reading of the findings. It is based on his many years of work and experience. He has summarized his data in a splendid manner. With splendid illustrations, clinical notes and findings the author drives home the essentials of correct interpretation.

The book should and will be welcomed by every Roentgenologist.

HYGIENE OF COMMUNICABLE DISEASE: A Handbook for Sanitarians, Medical Officers and General Practitioners. Francis M. Munson, M.D. of the Medical Corp, U. S. Navy. Cloth, 775 pp. Price $5.50. Paul B. Hoeber, New York.

Here is a concise and readable manual and text present in accessible form the latest information available concerning epidemiology and management of communicable diseases. It is a text that is complete in detail and void of unessential material. It imparts that information that is so essential in the handling of communicable diseases and enables one to quickly grasp the important details.

It is a text that wins and merits our hearty endorsement. It is bound to receive a cordial reception.

PSYCHOPATHOLOGY. Edward J. Kempff, M.D., Clinical Psychiatrist, St. Elizabeth's Hospital, Washington. Cloth, 762 pp. C. V. Mosby Co., St. Louis, Mo. Price $9.50.

This book has been written for the professional student of human behavior who must have an unprejudiced insight into human nature in order to deal justly and intelligently with problems of abnormal behavior as they are brought to the physician, rectory, police courts, prisons and asylums, and the directors of schools and colleges and the commanders of military and naval organizations.

In order to avoid speculation and theorizing, most of the space is devoted to plain expositions of the actual difficulties of cases. They are presented to speak for themselves. Naturally an enormous amount of valuable data on delusions, halluicnations, symbols, symptoms, defensive and compensatory methods of thinking, different types of inferiorities and causes of inferiorities, etc., is scattered through these cases. The most important illustrations have been collected together in the index to be readily accessible to the reader. For this tedious, difficult work I am especially indebted to Mrs. Kempf. The index has greatly increased the usefulness of the book.

Miscellany

EPEDEMIC ENCEPHALITIS.

1. The complete clinical picture of lethargic encephalitis can be readily recognized. Many atypical forms, however, may occur. These on one hand may resemble such severe conditions as cerebral haemorrhage or uremia, or on the other hand they may appear so slight and trivial that the correct diagnosis is missed.

2. It is probable that the infection is wide spread during an epidemic, and that carriers may spread the disease.

3. It would appear that the incubation period is about two weeks.

4. Tremors and myoclonic contractions are of common occurrence.

5. Late sequelae of the nature of muscular spasms are to be looked for. Optic atrophy and other after-effects have been noted.

6. A remarkable epidemic of hiccough appeared synchronously with the encephalitis epidemic.

7. The pathology may be summarized as interstitial inflammation of the central nervous system with secondary parenchymatous degeneration.

8. In a number of cases of cranial nerve disturbance the corresponding nerve fibres were pressed upon by greatly dilated vessels, the nuclei being comparatively normal.

9. In seven cases peculiar hyaline bodies, apparently the result of degeneration, were found in the central nervous system.

10. The disease presents somatic as well as cerebral manifestations. Wide-spread haemorrhages were present in the serous membranes in three cases, pointing to a general septicaemic condition.

11. Vascular and degenerative changes were present in the kidneys in many of the cases. (Annals of Medicine July 1920, William Boyd.)

ACUTE INFECTIOUS AORTITIS.

1. It is a well established fact that acute inflammation of the aorta occurs fairly frequently during the course of or during the convalescent period of many acute infectious diseases.

2. Clinical signs and symptoms of complicating acute aortitis may be absent or so slight as to lead to this localization being overlooked.

3. Retrosternal pain or distress, varying in degree from a mild sterno-cardia to a complete "angina pectoris," is an important symptom of acute aortic dysfunction.

4. Minor changes in the aorta, as shown by roentgen proof of its lengthening and elevation, may be the earliest demonstrable sign.

5. The prognosis is not grave in the young. It depends upon several associated factors: the type of infection, involvement of aortic valves, blocking of coronary arteries, and the degree of myocardial damage. (Annals of Medicine July 1920, George Brown.)

EPIDEMIC ENCEPHALITIS.

In conclusion, I wish to warn against esophagoscopy in compression stenosis, to emphasize its value in diagnosis of cicatricial and spasmodic stenosis, and finally to urge esophagoscopy as a routine examination in all cases with symptoms referred to the region of the esophagus. By so doing, it will be possible in many cases to make an early diagnosis of the esophagus which, at present, are not diagnosed until the disease is far advanced. (Annuals of Medicine July 1920, Elmer Freeman.)